



13014 - The Host Galaxies of High-Luminosity Obscured Quasars at $z \sim 2.5$

Cycle: 20, Proposal Category: GO

(Availability Mode: SUPPORTED)

INVESTIGATORS

<i>Name</i>	<i>Institution</i>	<i>E-Mail</i>
Dr. Michael A. Strauss (PI) (Contact)	Princeton University	strauss@astro.princeton.edu
Dr. Nicholas Ross (CoI) (Contact)	Lawrence Berkeley National Laboratory	npross@lbl.gov
Dr. Jenny E. Greene (CoI)	Princeton University	jgreene@astro.princeton.edu
Dr. Nadia L Zakamska (CoI)	The Johns Hopkins University	zakamska@pha.jhu.edu
Dr. W. Nielsen Brandt (CoI)	The Pennsylvania State University	niel@astro.psu.edu
Rachael Alexandroff (CoI)	Princeton University	rmalexan@princeton.edu
Dr. Guilin Liu (CoI)	The Johns Hopkins University	liu@pha.jhu.edu
Dr. Paul Smith (CoI)	University of Arizona	psmith@as.arizona.edu

VISITS

<i>Visit</i>	<i>Targets used in Visit</i>	<i>Configurations used in Visit</i>	<i>Orbits Used</i>	<i>Last Orbit Planner Run</i>	<i>OP Current with Visit?</i>
01	(1) SDSSJ1001+4151	ACS/WFC WFC3/IR	3	24-Sep-2012 21:40:39.0	yes
02	(2) SDSSJ1122+3415	ACS/WFC WFC3/IR	3	24-Sep-2012 21:40:58.0	yes
03	(3) SDSSJ1444-0013	ACS/WFC WFC3/IR	3	24-Sep-2012 21:41:16.0	yes
04	(4) SDSSJ1515+1757	ACS/WFC WFC3/IR	3	24-Sep-2012 21:41:34.0	yes

<i>Visit</i>	<i>Targets used in Visit</i>	<i>Configurations used in Visit</i>	<i>Orbits Used</i>	<i>Last Orbit Planner Run</i>	<i>OP Current with Visit?</i>
05	(5) SDSSJ2201+0012	ACS/WFC WFC3/IR	3	24-Sep-2012 21:41:54.0	yes
06	(6) SDSSJ2233+0249	ACS/WFC WFC3/IR	3	24-Sep-2012 21:42:11.0	yes

18 Total Orbits Used

ABSTRACT

Active Galactic Nuclei play a key role in the evolution of galaxies. However, very little is known about the host galaxies of the most luminous quasars at $z \sim 2.5$, the epoch when massive black hole growth peaked. The brightness of the quasar itself, which can easily outshine a galaxy by a large factor, makes it very difficult to study emission from extended gas or stars in the host galaxy. We propose to image extended emission from the host galaxies of a unique sample of six optically extinguished (Type II) luminous quasars with $z \sim 2.5$, with WFC3/F160W in the rest-frame optical longward of 4000Å and ACS/F814W in the rest-frame near-ultraviolet. These objects are selected from the spectroscopic database of the SDSS/Baryon Oscillation Spectroscopic Survey to have strong, narrow emission lines and weak continua. Because the central engines are obscured, we are able to image their low surface brightness hosts. With these images, we will quantify the luminosity, morphology, and dynamical state of the host galaxies, and search for extended scattered light from the obscured central engine. Our proposed HST observations will be the first comprehensive study of both host galaxy light and scattered light in high-luminosity quasars at the epoch of maximum black hole growth, and will give insights into the relationship between host galaxies and black holes during this important, and yet largely unexplored period.

OBSERVING DESCRIPTION

The aim of this program is to image relatively faint, extended emission from the host galaxies of a sample of 6 (six) optically extinguished (Type II) luminous quasars using ACS/WFC and WFC3/IR. For each object, we propose to observe using ACS/WFC for 2 (two) orbits using the F814W band, and WFC3/IR for one orbit using the F160W band.

We use the ACS-WFC-DITHER-BOX pattern with 4 pointings, twice across two orbits.

This gives us 8 science exposures, with exposure times ranging from 492sec to 602secs each, once auto-adjust has been run.

For the WFC3 observations, we primarily use the WFC3-IR-DITHER-BOX-MIN pattern, also with 4 points. Here, we use the sampling sequence STEP100, with NSAMP=12, as we understand the log-linear will potentially increase the dynamic range of our final image. We also employ the WFC3-IR-DITHER-BLOB, with 2 pointings and a relatively short exposure using the SPARS25, NSAMP=5 parameters in order to minimize the amount of Unused Visibility in our allocated orbits.

We have successfully run the Orbit and Visit Planner, and performed checks using the BOT and Target Confirmation.

We envisage this is a relatively straightforward program to execute, with no special scheduling, observing or calibrations requested.

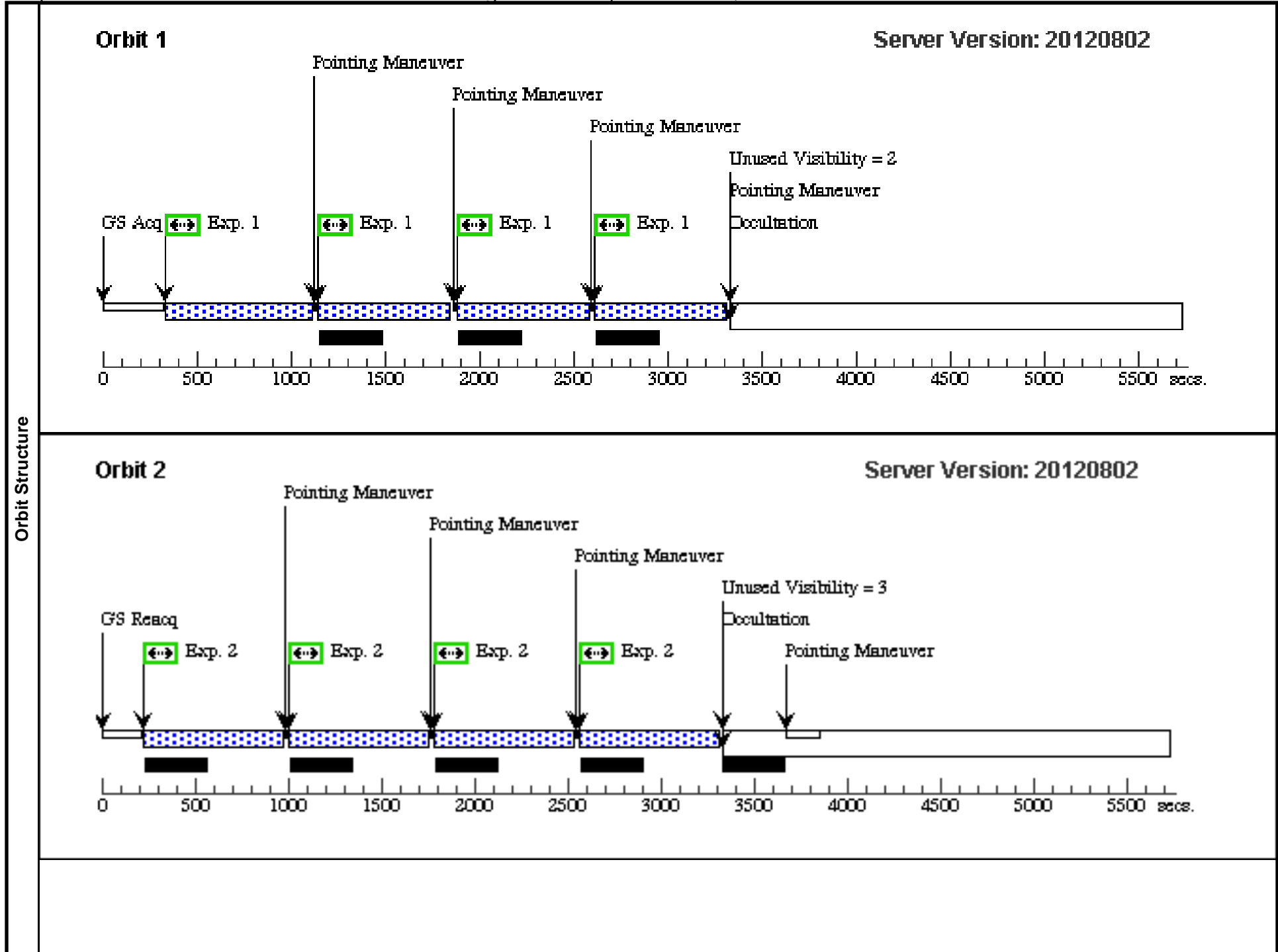
Proposal 13014 - Visit 01 - The Host Galaxies of High-Luminosity Obscured Quasars at z~2.5

Tue Sep 25 01:42:21 GMT 2012

Visit	Proposal 13014, Visit 01, implementation Diagnostic Status: No Diagnostics Scientific Instruments: WFC3/IR, ACS/WFC Special Requirements: (none)					
	#	Primary Pattern	Secondary Pattern	Exposures		
Patterns	(1)	Pattern Type=ACS-WFC-DITHER-BOX Purpose=DITHER Number Of Points=4 Point Spacing=0.265 Line Spacing=0.187 Coordinate Frame=POS-TARG Pattern Orientation=20.67 Angle Between Sides=69.05 Center Pattern=false		(1), (2)		
	(2)	Pattern Type=WFC3-IR-DITHER-BOX-MIN Purpose=DITHER Number Of Points=4 Point Spacing=0.572 Line Spacing=0.365 Coordinate Frame=POS-TARG Pattern Orientation=18.528 Angle Between Sides=74.653 Center Pattern=false		(3)		
	(3)	Pattern Type=WFC3-IR-DITHER-BLOB Purpose=DITHER Number Of Points=2 Point Spacing=5.183 Line Spacing= Coordinate Frame=POS-TARG Pattern Orientation=41.859 Angle Between Sides= Center Pattern=true		(4)		
Fixed Targets	#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
	(1)	SDSSJ1001+4151 Alt Name1: 4566-626-55630	RA: 10 01 33.8500 (150.3910417d) Dec: +41 51 7.90 (41.85219d) Equinox: J2000		V=21.13+/-0.05 SDSS i-band PSF = 21.12+/-0.08	Reference Frame: ICRS

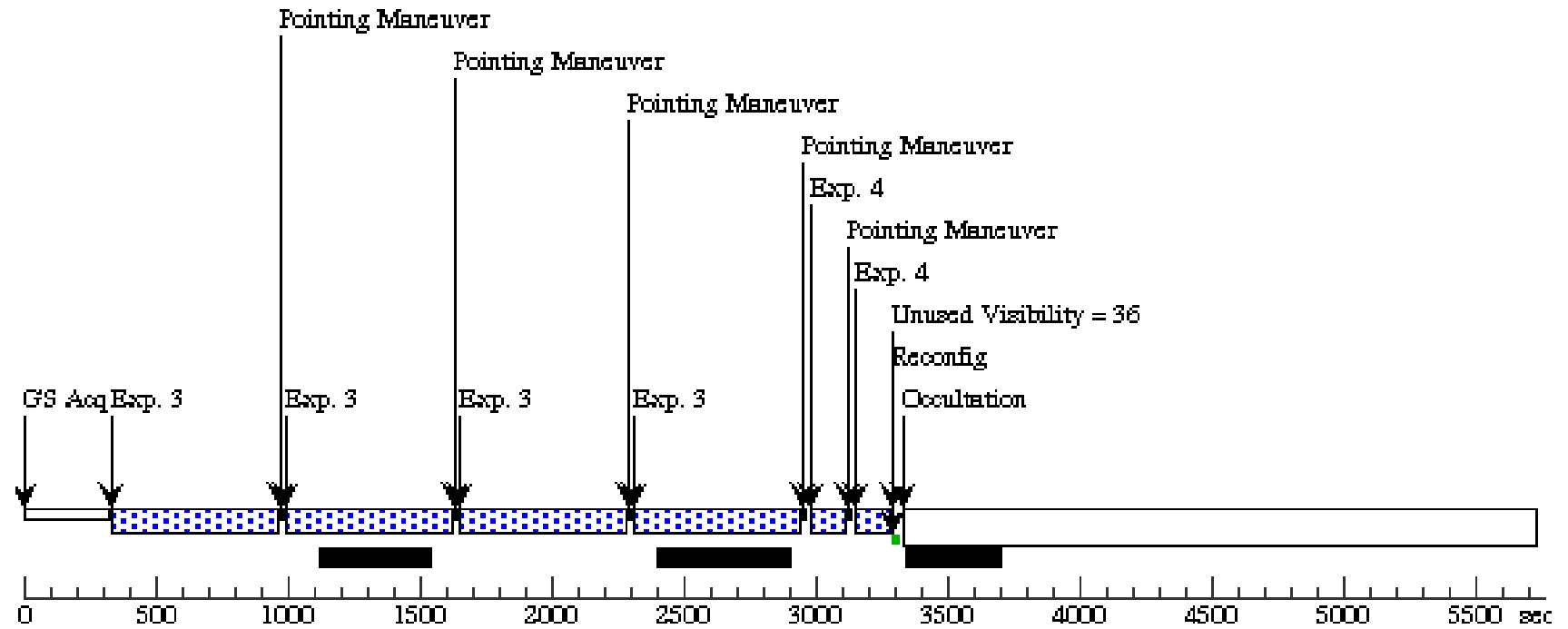
Proposal 13014 - Visit 01 - The Host Galaxies of High-Luminosity Obscured Quasars at z~2.5

Exposures	#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time/[Actual Dur.]	Orbit
	1		(1) SDSSJ1001+415 1	ACS/WFC, ACCUM, WFC1	F814W			Pattern 1, Exps 1-1 in Visit 01 (1)	576 Secs [=>(Pattern 1)] [=>(Pattern 2)] [=>(Pattern 3)] [=>(Pattern 4)]	[1]
	2		(1) SDSSJ1001+415 1	ACS/WFC, ACCUM, WFC1	F814W		POS TARG 0.5,0.5	Pattern 1, Exps 2-2 in Visit 01 (1)	624 Secs [=>(Pattern 1)] [=>(Pattern 2)] [=>(Pattern 3)] [=>(Pattern 4)]	[2]
	3		(1) SDSSJ1001+415 1	WFC3/IR, MULTIACCUM, IR	F160W	SAMP-SEQ=STEP100; NSAMP=12		Pattern 2, Exps 3-3 in Visit 01 (2)	[=>(Pattern 1)] [=>(Pattern 2)] [=>(Pattern 3)] [=>(Pattern 4)]	[3]
	4		(1) SDSSJ1001+415 1	WFC3/IR, MULTIACCUM, IR	F160W	SAMP-SEQ=SPARS25; NSAMP=5		Pattern 3, Exps 4-4 in Visit 01 (3)	[=>(Pattern 1)] [=>(Pattern 2)]	[3]



Orbit 3

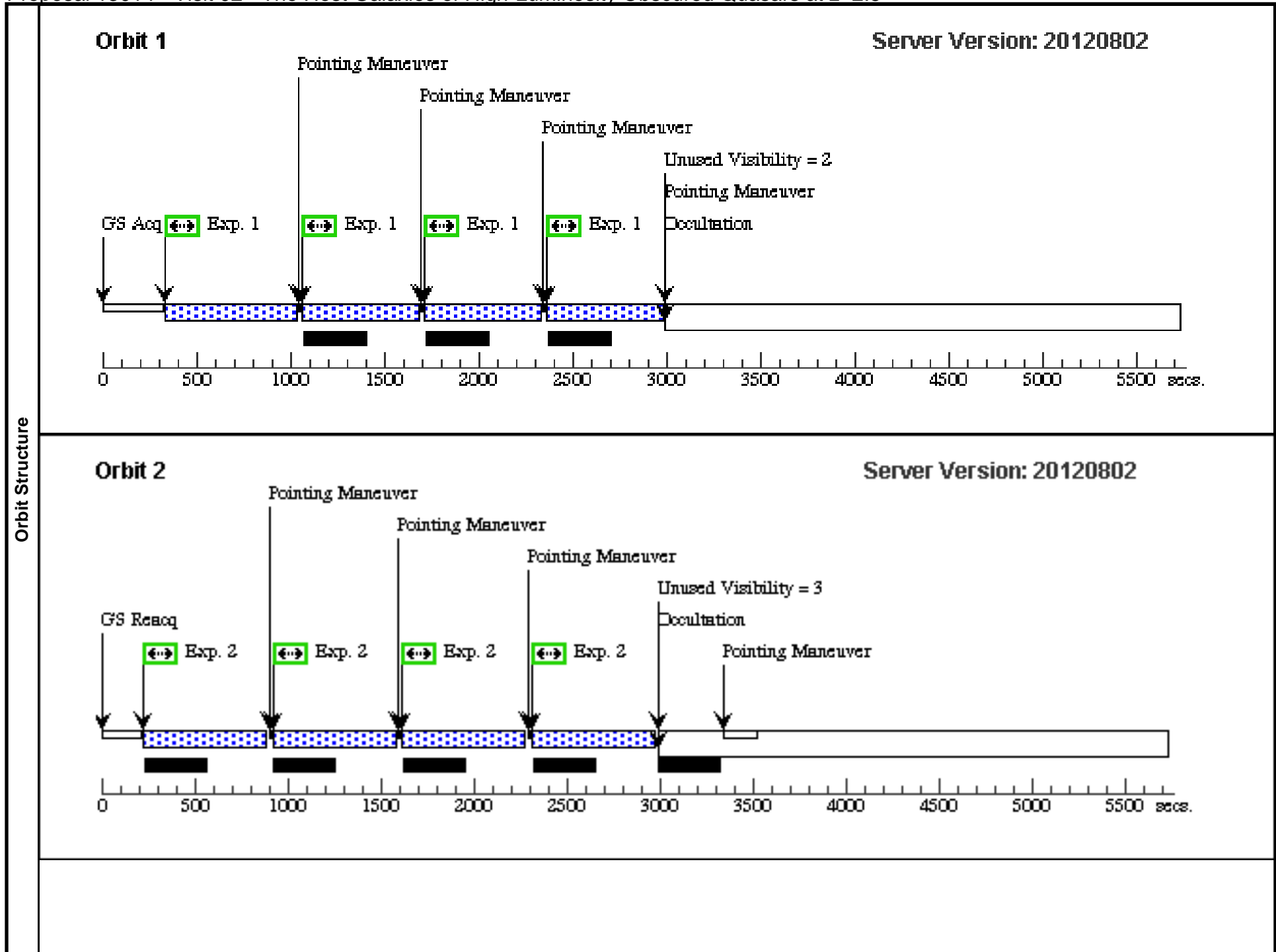
Server Version: 20120802

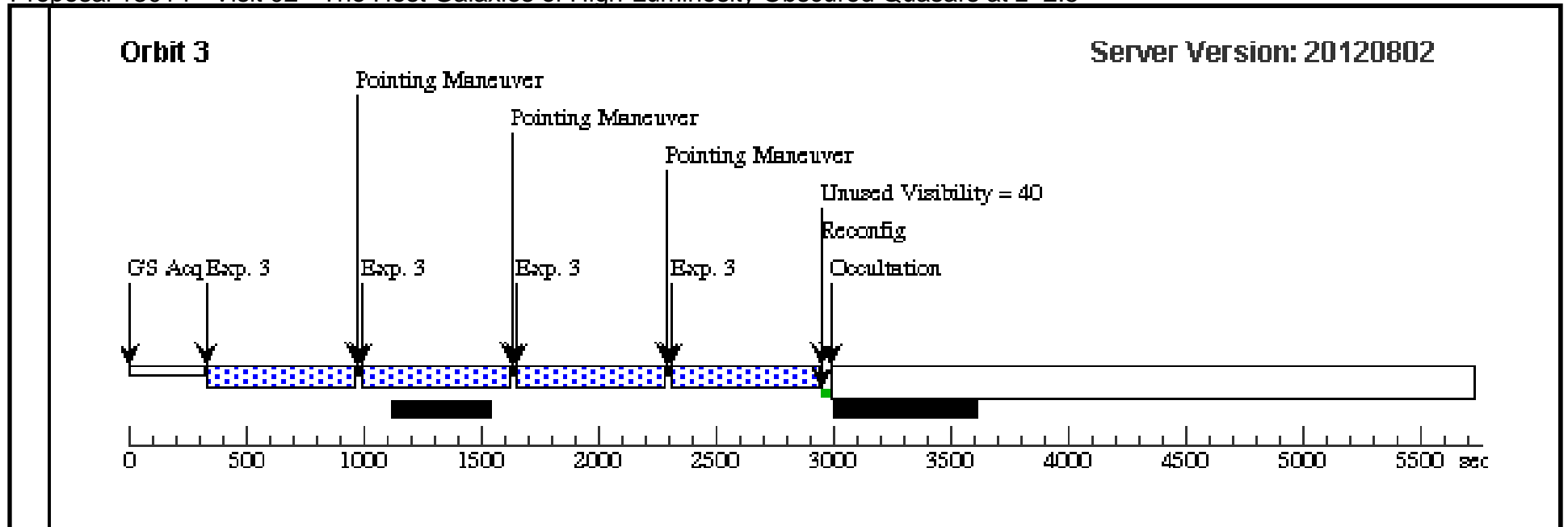


Proposal 13014 - Visit 02 - The Host Galaxies of High-Luminosity Obscured Quasars at z~2.5

Tue Sep 25 01:42:27 GMT 2012

Visit	Proposal 13014, Visit 02, implementation Diagnostic Status: No Diagnostics Scientific Instruments: WFC3/IR, ACS/WFC Special Requirements: SCHED 100%									
	#	Primary Pattern	Secondary Pattern	Exposures						
Patterns	(1)	Pattern Type=ACS-WFC-DITHER-BOX Purpose=DITHER Number Of Points=4 Point Spacing=0.265 Line Spacing=0.187	Coordinate Frame=POS-TARG Pattern Orientation=20.67 Angle Between Sides=69.05 Center Pattern=false	(1), (2)						
	(2)	Pattern Type=WFC3-IR-DITHER-BOX-MIN Purpose=DITHER Number Of Points=4 Point Spacing=0.572 Line Spacing=0.365	Coordinate Frame=POS-TARG Pattern Orientation=18.528 Angle Between Sides=74.653 Center Pattern=false	(3)						
Fixed Targets	#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous				
	(2)	SDSSJ1122+3415 Alt Name1: 4623-032-55621	RA: 11 22 30.3400 (170.6264167d) Dec: +34 15 38.00 (34.26056d) Equinox: J2000		V=21.74+/-0.05 SDSS i-band PSF = 21.94+/-0.13	Reference Frame: ICRS				
Exposures	#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time/[Actual Dur.]	Orbit
	1		(2) SDSSJ1122+3415	ACS/WFC, ACCUM, WFC1	F814W			Pattern 1, Exps 1-1 in Visit 02 (1)	576 Secs [=>492.0 Secs (Pattern 1)] [=>492.0 Secs (Pattern 2)] [=>492.0 Secs (Pattern 3)] [=>492.0 Secs (Pattern 4)]	[1]
	2		(2) SDSSJ1122+3415	ACS/WFC, ACCUM, WFC1	F814W		POS TARG 0.5,0.5	Pattern 1, Exps 2-2 in Visit 02 (1)	624 Secs [=>540.0 Secs (Pattern 1)] [=>540.0 Secs (Pattern 2)] [=>540.0 Secs (Pattern 3)] [=>540.0 Secs (Pattern 4)]	[2]
3		(2) SDSSJ1122+3415	WFC3/IR, MULTIACCUM, IR	F160W		SAMP-SEQ=STEP100; NSAMP=12		Pattern 2, Exps 3-3 in Visit 02 (2)	[=>(Pattern 1)] [=>(Pattern 2)] [=>(Pattern 3)] [=>(Pattern 4)]	[3]





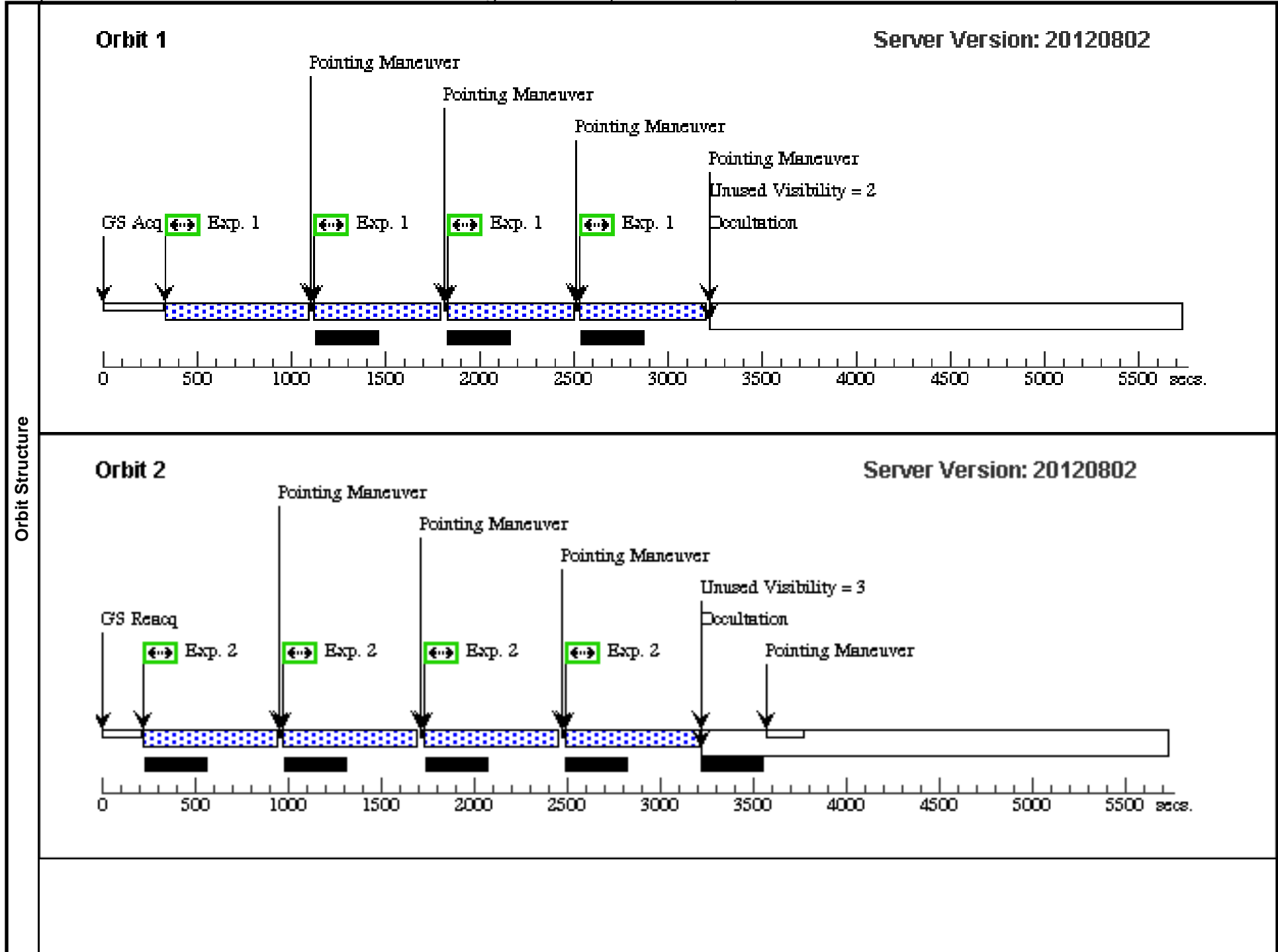
Proposal 13014 - Visit 03 - The Host Galaxies of High-Luminosity Obscured Quasars at z~2.5

Tue Sep 25 01:42:30 GMT 2012

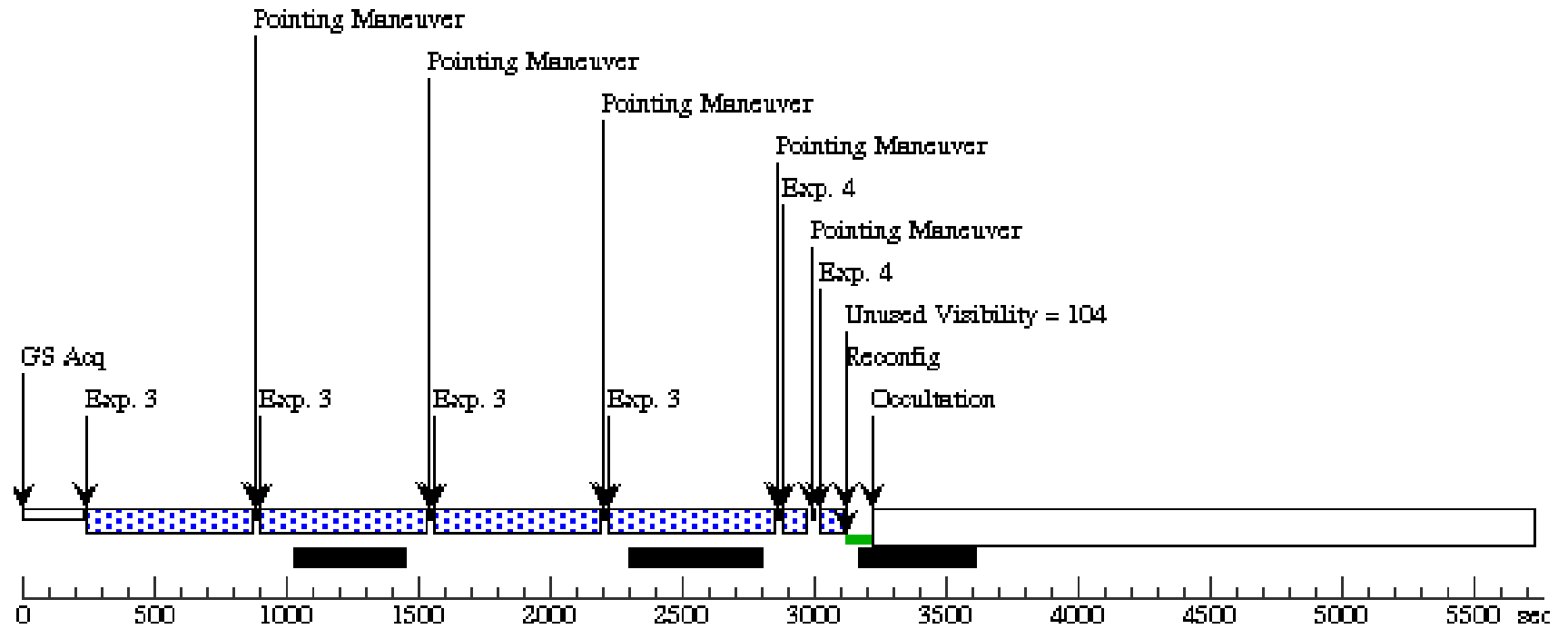
Visit	Proposal 13014, Visit 03, implementation Diagnostic Status: No Diagnostics Scientific Instruments: WFC3/IR, ACS/WFC Special Requirements: (none)					
	#	Primary Pattern	Secondary Pattern	Exposures		
Patterns	(1)	Pattern Type=ACS-WFC-DITHER-BOX Purpose=DITHER Number Of Points=4 Point Spacing=0.265 Line Spacing=0.187 Coordinate Frame=POS-TARG Pattern Orientation=20.67 Angle Between Sides=69.05 Center Pattern=false		(1), (2)		
	(2)	Pattern Type=WFC3-IR-DITHER-BOX-MIN Purpose=DITHER Number Of Points=4 Point Spacing=0.572 Line Spacing=0.365 Coordinate Frame=POS-TARG Pattern Orientation=18.528 Angle Between Sides=74.653 Center Pattern=false		(3)		
	(3)	Pattern Type=WFC3-IR-DITHER-BLOB Purpose=DITHER Number Of Points=2 Point Spacing=5.183 Line Spacing= Coordinate Frame=POS-TARG Pattern Orientation=41.859 Angle Between Sides= Center Pattern=true		(4)		
Fixed Targets	#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
	(3)	SDSSJ1444-0013 Alt Name1: 4022-278-55352	RA: 14 44 41.0400 (221.1710000d) Dec: -00 13 43.46 (-.22874d) Equinox: J2000		V=21.52+/-0.05 SDSS i-band PSF =21.74+/-0.09	Reference Frame: ICRS

Proposal 13014 - Visit 03 - The Host Galaxies of High-Luminosity Obscured Quasars at z~2.5

Exposures	#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time/[Actual Dur.]	Orbit
	1	(3) SDSSJ1444-0013	ACS/WFC, ACCUM, WFC1	F814W				Pattern 1, Exps 1-1 in Visit 03 (1)	576 Secs [=>550.0 Secs (Pattern 1)] [=>550.0 Secs (Pattern 2)] [=>550.0 Secs (Pattern 3)] [=>550.0 Secs (Pattern 4)]	[1]
	2	(3) SDSSJ1444-0013	ACS/WFC, ACCUM, WFC1	F814W			POS TARG 0.5,0.5	Pattern 1, Exps 2-2 in Visit 03 (1)	624 Secs [=>598.0 Secs (Pattern 1)] [=>598.0 Secs (Pattern 2)] [=>598.0 Secs (Pattern 3)] [=>598.0 Secs (Pattern 4)]	[2]
	3	(3) SDSSJ1444-0013	WFC3/IR, MULTIACCUM, IR	F160W	SAMP-SEQ=STEP100; NSAMP=12		GS ACQ SCENARIO SINGLE	Pattern 2, Exps 3-3 in Visit 03 (2)	[=>(Pattern 1)] [=>(Pattern 2)] [=>(Pattern 3)] [=>(Pattern 4)]	[3]
	4	(3) SDSSJ1444-0013	WFC3/IR, MULTIACCUM, IR	F160W	SAMP-SEQ=SPARS10; NSAMP=7			Pattern 3, Exps 4-4 in Visit 03 (3)	[=>(Pattern 1)] [=>(Pattern 2)]	[3]



Orbit 3



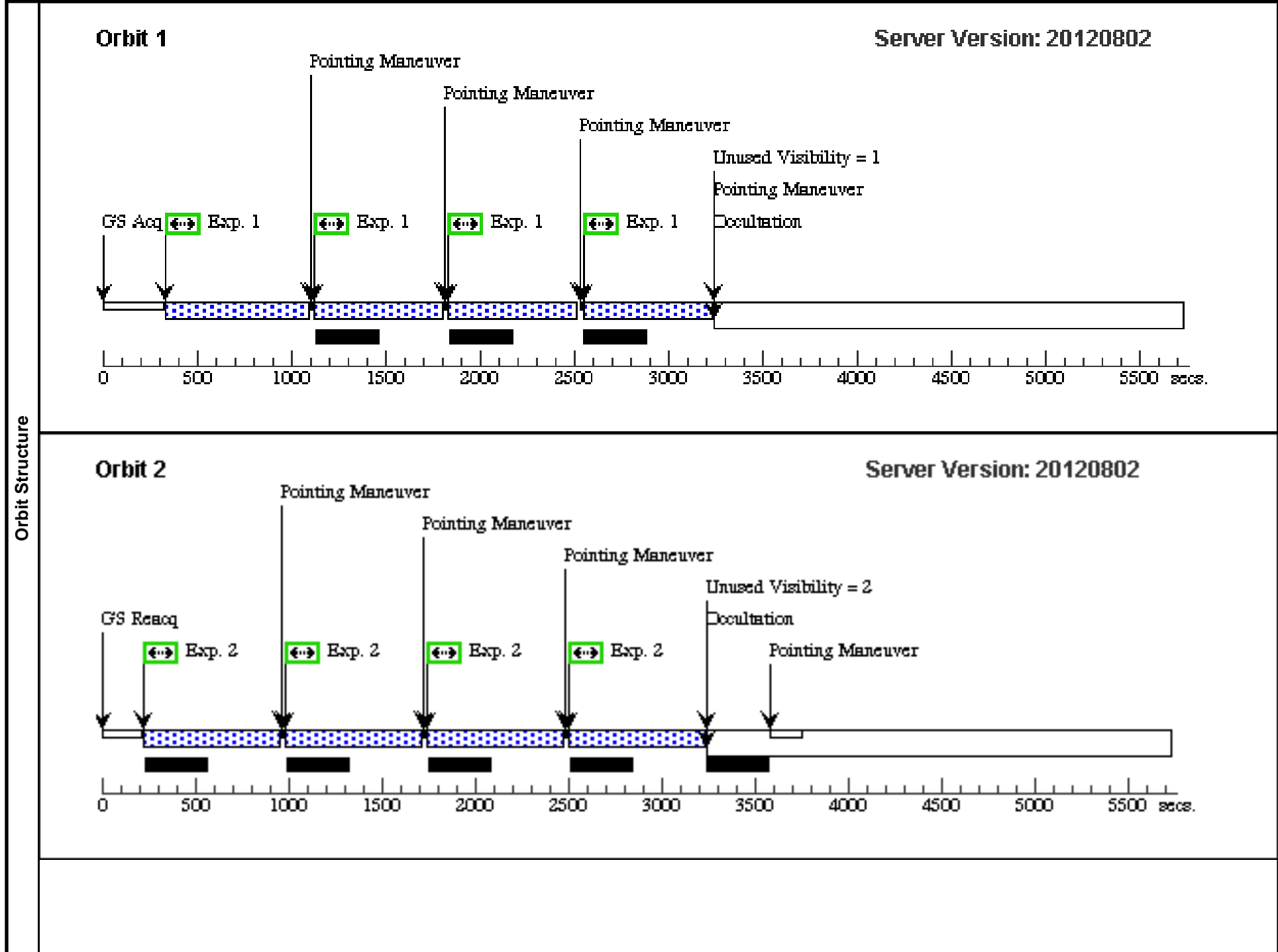
Proposal 13014 - Visit 04 - The Host Galaxies of High-Luminosity Obscured Quasars at z~2.5

Tue Sep 25 01:42:33 GMT 2012

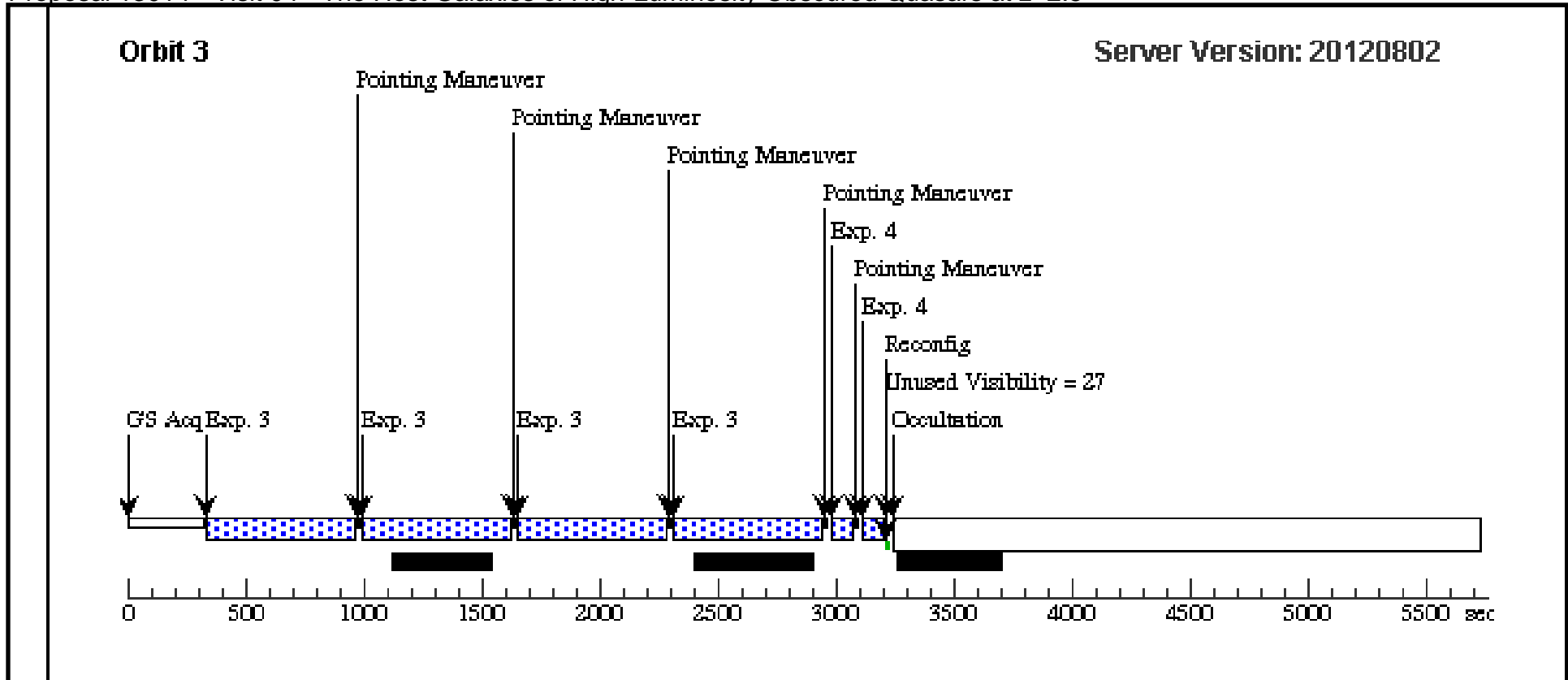
Visit	Proposal 13014, Visit 04, implementation Diagnostic Status: No Diagnostics Scientific Instruments: WFC3/IR, ACS/WFC Special Requirements: (none)					
	#	Primary Pattern	Secondary Pattern	Exposures		
Patterns	(1)	Pattern Type=ACS-WFC-DITHER-BOX Purpose=DITHER Number Of Points=4 Point Spacing=0.265 Line Spacing=0.187 Coordinate Frame=POS-TARG Pattern Orientation=20.67 Angle Between Sides=69.05 Center Pattern=false		(1), (2)		
	(2)	Pattern Type=WFC3-IR-DITHER-BOX-MIN Purpose=DITHER Number Of Points=4 Point Spacing=0.572 Line Spacing=0.365 Coordinate Frame=POS-TARG Pattern Orientation=18.528 Angle Between Sides=74.653 Center Pattern=false		(3)		
	(3)	Pattern Type=WFC3-IR-DITHER-BLOB Purpose=DITHER Number Of Points=2 Point Spacing=5.183 Line Spacing= Coordinate Frame=POS-TARG Pattern Orientation=41.859 Angle Between Sides= Center Pattern=true		(4)		
Fixed Targets	#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
	(4)	SDSSJ1515+1757 Alt Name1: 3951-240-55681	RA: 15 15 44.0100 (228.9333750d) Dec: +17 57 53.06 (17.96474d) Equinox: J2000		V=22.06+/-0.07 SDSS i-band PSF =21.87+/-0.11	Reference Frame: ICRS

Proposal 13014 - Visit 04 - The Host Galaxies of High-Luminosity Obscured Quasars at z~2.5

Exposures	#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time/[Actual Dur.]	Orbit
	1		(4) SDSSJ1515+175 7	ACS/WFC, ACCUM, WFC1	F814W			Pattern 1, Exps 1-1 in Visit 04 (1)	576 Secs [==>554.0 Secs (Pattern 1)] [==>554.0 Secs (Pattern 2)] [==>554.0 Secs (Pattern 3)] [==>554.0 Secs (Pattern 4)]	[1]
	2		(4) SDSSJ1515+175 7	ACS/WFC, ACCUM, WFC1	F814W		POS TARG 0.5,0.5	Pattern 1, Exps 2-2 in Visit 04 (1)	624 Secs [==>602.0 Secs (Pattern 1)] [==>602.0 Secs (Pattern 2)] [==>602.0 Secs (Pattern 3)] [==>602.0 Secs (Pattern 4)]	[2]
	3		(4) SDSSJ1515+175 7	WFC3/IR, MULTIACCUM, IR	F160W	SAMP-SEQ=STEP100; NSAMP=12		Pattern 2, Exps 3-3 in Visit 04 (2)	[==>(Pattern 1)] [==>(Pattern 2)] [==>(Pattern 3)] [==>(Pattern 4)]	[3]
	4		(4) SDSSJ1515+175 7	WFC3/IR, MULTIACCUM, IR	F160W	SAMP-SEQ=SPARS10; NSAMP=7		Pattern 3, Exps 4-4 in Visit 04 (3)	[==>(Pattern 1)] [==>(Pattern 2)]	[3]



Orbit Structure



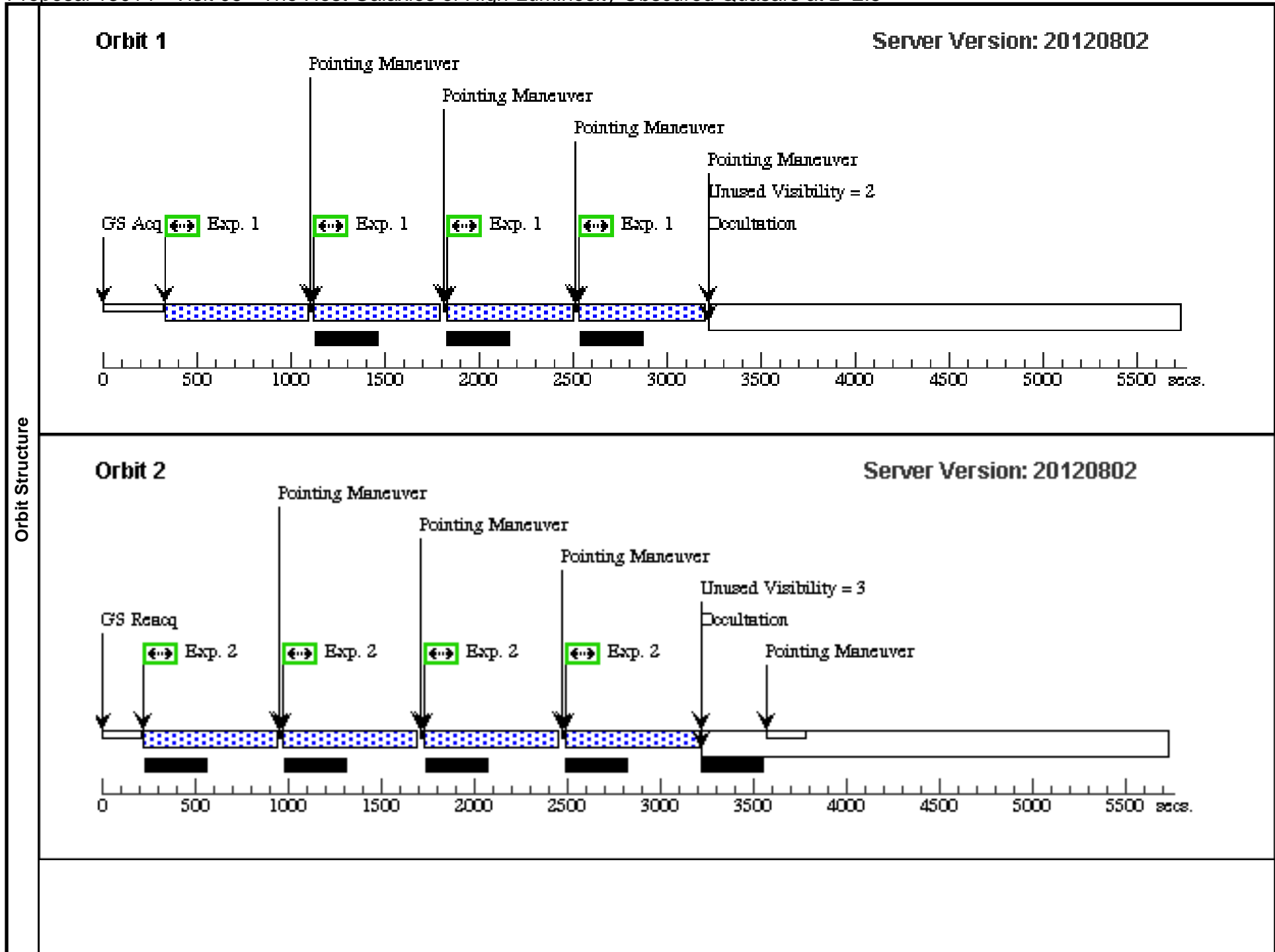
Proposal 13014 - Visit 05 - The Host Galaxies of High-Luminosity Obscured Quasars at z~2.5

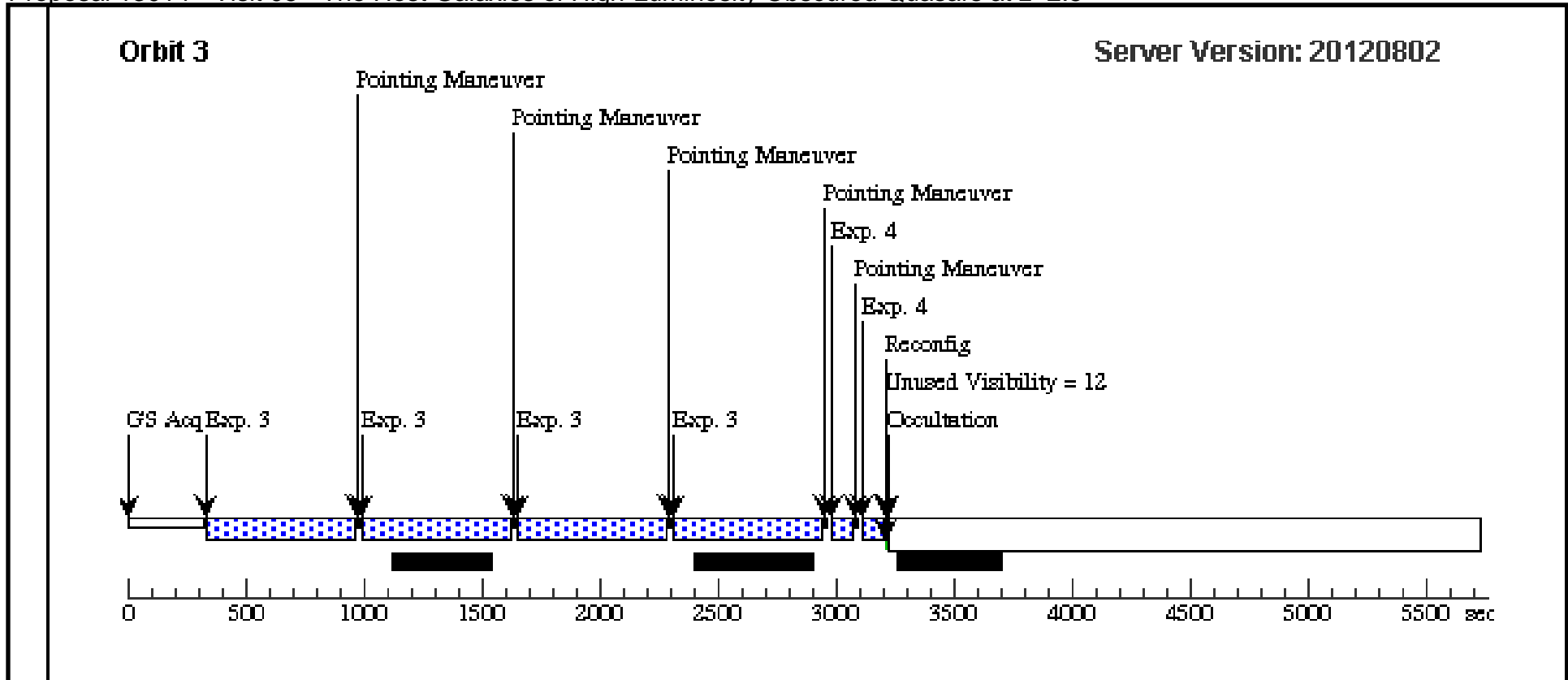
Tue Sep 25 01:42:36 GMT 2012

Visit	Proposal 13014, Visit 05, implementation Diagnostic Status: No Diagnostics Scientific Instruments: WFC3/IR, ACS/WFC Special Requirements: (none)					
	Patterns	#	Primary Pattern	Secondary Pattern	Exposures	
		(1)	Pattern Type=ACS-WFC-DITHER-BOX Purpose=DITHER Number Of Points=4 Point Spacing=0.265 Line Spacing=0.187	Coordinate Frame=POS-TARG Pattern Orientation=20.67 Angle Between Sides=69.05 Center Pattern=false		(1), (2)
		(2)	Pattern Type=WFC3-IR-DITHER-BOX-MIN Purpose=DITHER Number Of Points=4 Point Spacing=0.572 Line Spacing=0.365	Coordinate Frame=POS-TARG Pattern Orientation=18.528 Angle Between Sides=74.653 Center Pattern=false		(3)
(3)	Pattern Type=WFC3-IR-DITHER-BLOB Purpose=DITHER Number Of Points=2 Point Spacing=5.183 Line Spacing=	Coordinate Frame=POS-TARG Pattern Orientation=41.859 Angle Between Sides= Center Pattern=true		(4)		
Fixed Targets	#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
	(5)	SDSSJ2201+0012 Alt Name1: 4199-540-55481	RA: 22 01 26.1100 (330.3587917d) Dec: +00 12 31.55 (.20876d) Equinox: J2000		V=21.81+/-0.05 SDSS i-band PSF =21.74+/-0.09	Reference Frame: ICRS

Proposal 13014 - Visit 05 - The Host Galaxies of High-Luminosity Obscured Quasars at z~2.5

Exposures	#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time/[Actual Dur.]	Orbit
	1		(5) SDSSJ2201+001 2	ACS/WFC, ACCUM, WFC1	F814W			Pattern 1, Exps 1-1 in Visit 05 (1)	576 Secs [=>550.0 Secs (Pattern 1)] [=>550.0 Secs (Pattern 2)] [=>550.0 Secs (Pattern 3)] [=>550.0 Secs (Pattern 4)]	[1]
	2		(5) SDSSJ2201+001 2	ACS/WFC, ACCUM, WFC1	F814W		POS TARG 0.5,0.5	Pattern 1, Exps 2-2 in Visit 05 (1)	624 Secs [=>598.0 Secs (Pattern 1)] [=>598.0 Secs (Pattern 2)] [=>598.0 Secs (Pattern 3)] [=>598.0 Secs (Pattern 4)]	[2]
	3		(5) SDSSJ2201+001 2	WFC3/IR, MULTIACCUM, IR	F160W	SAMP-SEQ=STEP100; NSAMP=12		Pattern 2, Exps 3-3 in Visit 05 (2)	[=>(Pattern 1)] [=>(Pattern 2)] [=>(Pattern 3)] [=>(Pattern 4)]	[3]
	4		(5) SDSSJ2201+001 2	WFC3/IR, MULTIACCUM, IR	F160W	SAMP-SEQ=SPARS10; NSAMP=7		Pattern 3, Exps 4-4 in Visit 05 (3)	[=>(Pattern 1)] [=>(Pattern 2)]	[3]





Proposal 13014 - Visit 06 - The Host Galaxies of High-Luminosity Obscured Quasars at z~2.5

Tue Sep 25 01:42:39 GMT 2012

Visit	Proposal 13014, Visit 06, implementation Diagnostic Status: No Diagnostics Scientific Instruments: WFC3/IR, ACS/WFC Special Requirements: (none)					
	#	Primary Pattern	Secondary Pattern	Exposures		
Patterns	(1)	Pattern Type=ACS-WFC-DITHER-BOX Purpose=DITHER Number Of Points=4 Point Spacing=0.265 Line Spacing=0.187	Coordinate Frame=POS-TARG Pattern Orientation=20.67 Angle Between Sides=69.05 Center Pattern=false	(1), (2)		
	(2)	Pattern Type=WFC3-IR-DITHER-BOX-MIN Purpose=DITHER Number Of Points=4 Point Spacing=0.572 Line Spacing=0.365	Coordinate Frame=POS-TARG Pattern Orientation=18.528 Angle Between Sides=74.653 Center Pattern=false	(3)		
	(3)	Pattern Type=WFC3-IR-DITHER-BLOB Purpose=DITHER Number Of Points=2 Point Spacing=5.183 Line Spacing=	Coordinate Frame=POS-TARG Pattern Orientation=41.859 Angle Between Sides= Center Pattern=true	(4)		
Fixed Targets	#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
	(6)	SDSSJ2233+0249 Alt Name1: 4291-346-55525	RA: 22 33 48.0900 (338.4503750d) Dec: +02 49 32.83 (2.82579d) Equinox: J2000		V=21.93+/-0.05 SDSS i-band PSF= 22.15+/-0.13	Reference Frame: ICRS

Proposal 13014 - Visit 06 - The Host Galaxies of High-Luminosity Obscured Quasars at z~2.5

Exposures	#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time/[Actual Dur.]	Orbit
	1		(6) SDSSJ2233+0249	ACS/WFC, ACCUM, WFC1	F814W			Pattern 1, Exps 1-1 in Visit 06 (1)	576 Secs [=>550.0 Secs (Pattern 1)] [=>550.0 Secs (Pattern 2)] [=>550.0 Secs (Pattern 3)] [=>550.0 Secs (Pattern 4)]	[1]
	2		(6) SDSSJ2233+0249	ACS/WFC, ACCUM, WFC1	F814W		POS TARG 0.5,0.5	Pattern 1, Exps 2-2 in Visit 06 (1)	624 Secs [=>598.0 Secs (Pattern 1)] [=>598.0 Secs (Pattern 2)] [=>598.0 Secs (Pattern 3)] [=>598.0 Secs (Pattern 4)]	[2]
	3		(6) SDSSJ2233+0249	WFC3/IR, MULTIACCUM, IR	F160W	SAMP-SEQ=STEP100; NSAMP=12		Pattern 2, Exps 3-3 in Visit 06 (2)	[=>(Pattern 1)] [=>(Pattern 2)] [=>(Pattern 3)] [=>(Pattern 4)]	[3]
	4		(6) SDSSJ2233+0249	WFC3/IR, MULTIACCUM, IR	F160W	SAMP-SEQ=SPARS10; NSAMP=7		Pattern 3, Exps 4-4 in Visit 06 (3)	[=>(Pattern 1)] [=>(Pattern 2)]	[3]

